

A Geotechnical Short Course on **Ground Improvement**

Preloading with Vertical Drain-Vacuum Preloading-Dynamic Compaction, Vibro Compaction, Jet Grouting
01-03 September 2015 by *GOUW Tjie-Liong, Ir., M.Eng., ChFC*

Background:

Soft compressible clay induces large total and differential settlement to the structures built above. Construction on loose sands and high seismic region may face catastrophic liquefaction. To mitigate those problems and design a safe and economical foundation, a proper understanding of the settlement problem and the liquefaction potential is a pre-requisite, followed by the selection and design of suitable ground improvement method. This short course is designed to introduce and to train civil/structural/geotechnical engineers with the design, execution, and monitoring of suitable ground improvement techniques. Exercise with case histories on real projects shall be given, **Analysis of liquefaction potential by using NOVO computer software shall also be given.**

Instructor:

The course shall be given by **Ir. GOUW Tjie-Liong M.Eng., ChFC** whom has more than 30 years of experiences in the design/consultation, execution, and supervision of many geotechnical works in a number of countries.

Participants:

- The course is for all civil/structural/geotechnical engineers that works as consultants, contractors, as well as lecturers and civil engineering students.
- Priority is given to the participants who has registered and has paid the registration fee.

Course Contents:

Covering theoretical design calculation, execution, monitoring and interpretation.

Practice design and data interpretation session shall be given.

1. **PRECOMPRESSION With VERTICAL DRAINS:** *Basic Principles, Type of Vertical Drains, Application, Design Method and Calculation, Installation, Instrumentation, Monitoring, Interpretation, Asaoka Method, and Case Histories.*
2. **VACUUM PRELOADING:** *Surcharging vs Vacuum Method; Execution; Monitoring System; Improved Ground; Application Examples and Case Histories (with projects in Indonesia and Vietnam)*
3. **LIQUEFACTION POTENTIAL ANALYSIS:** *What is Liquefaction; Liquefaction Phenomenon; Liquefaction induced Damages; Identifying Liquefaction Potential; Cyclic Stress Ratio – CSR; Assessing Liquefaction through SPT data; Assessing Liquefaction Potential through CPT data; Liquefaction of Deeper Layer; Calculation Examples. **Analysis of Liquefaction potential by using Novo Liquefaction software shall be given.***
4. **DYNAMIC COMPACTION:** *Equipment, Mechanism, Execution procedure, Design Guidelines and Case Histories.*
5. **VIBROCOMPACTION – VIBROFLOATATION – STONE COLUMNS:** *Vibro Compaction Mechanism, Dry Process, Wet Process, Vibrofloatation, Vibrocat, Stone Columns, Design Guidelines, Case Histories.*
6. **JET GROUTING:** *Various Grouting Techniques, Equipment, Execution, Formation, Cement and Composition, Application of Jet Grouting.*

Course fee and Certificates:

- **Course fee is Rp. 4,000,000.-/participant or USD 500.-/participant** for overseas participants.
- Inclusive of course materials, lunches, and coffee breaks.
- Refund policy: no refund is entertained, however if a registered participant cannot come, he/she can be replaced by another person.
- Payment by transfer. Account shall be given upon registration. No invoice shall be given prior to course. Receipt shall be given during the course days.
- Certificate (soft copy) of participation shall be awarded.
- Participants to bring their own laptop, notebook, pen, and calculator.

Venue and Time:

- Venue: **GREEN GARDEN I-9/28A** (right behind McDonald Green Garden) – Daan Mogot – Jakarta Barat – Indonesia.
- Course starts at 9 AM and finish at 5 PM with lunch and coffee in between.

FIRST COME FIRST SERVE only 30 seats available!

Registration: by email: gloffice@gmail.com & glttrainingclass@yahoo.com